DOCUMENT RESUME

ED 183 208 IR 008 158

AUTHOR Uhlmann, Judith
TITLE Telemedia Research and Innovation. Telecommunications Study Commission, Working Paper No. 11.
INSTITUTION Virginia State Telecommunications Study Commission, Richmond.
PUB DATE 23 Aug 79
NOTE 11p.; For related documents, see IR 008 152-160, IR 008 162, and IR 008 164-165

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Educational Innovation; Higher Education; *Media Research; Radio; *Research Needs; *State Programs; *Telecommunication
IDENTIFIERS *Virginia

ABSTRACT

The extent of present efforts in telecommunications research and innovation in the Commonwealth of Virginia is reviewed. Two programs are highlighted: Project HEAR (Higher Education Applications of Radio), designed to enable state-supported institutions to develop means of meeting cultural, instructional, and informational obligations through the use of radio broadcasting; and the Center for Excellence, Inc., a private, non-profit corporation concerned with educational, medical, and social services research and resource development. National perspectives on telecommunications research as they relate to Virginia are also reviewed, and the concluding comments indicate some areas in which there is a need for more government support, as well as levels of research and development that are not being utilized to their potential. (RAO)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED183208

Working Paper # 11

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

TELECOMMUNICATIONS STUDY COMMISSION

"TELEMEDIA RESEARCH AND INNOVATION"

AUGUST 23, 1979

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

Gilbert W. Fairholm

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

A Staff Report by: JUDITH UHLMANN

IR008158

Gilbert W. Fairholm
Executive Director

Lawrence Douglas Wilder
Chairman
Thomas C. Boushall
Vice-Chairman
Patsy D. Carpenter
Dudley J. Emick, Jr.
Calvin W. Fowler
Nathan H. Miller
Thomas W. Moss, Jr.
Bonnie L. Paul
S. Wallace Stieffen
William T. Wilson
William L. Zimmer, III

INTRODUCTION

> "As a means of enhancing the efficiency and precision of the VPTC's public telecommunications services contracts and related facility grants, the VPTC should undertake selective systematic research studies and technological experimentation to develop pertinent new data bearing on particular telecommunications investment potentials." (Master State Plan: 1973, p. 57).

This quote from the 1973 Master Plan sets the mandate under which the Virginia Public Telecommunications Council is to operate concerning research and innovation. With the rapid increase in the use of telecommunications technologies in recent years, the need for knowledge concerning the applicability of these technologies has increased even more until telecommunications research and application of this technology to the Commonwealth's concerns has reached critical proportions. Unfortunately, there is no significant research being done by Virginia State government which conscientiously attempts to apply telecommunications technologies to the resolution of its service delivery problems, or even to its information movement needs.

As noted, the Master State Plan for Public Telecommunications places responsibility for research innovation and demonstration in the Virginia Public Telecommunications Council. Staff are not pursuing this part of the mandate actively. While staff limitations are obvious causes, there is, too, a lack of emphasis on this important role, in the staff, on the VPTC Council, and within State government generally. The effects of this oversight can be significant.

EXTENT OF PRESENT EFFORTS IN RESEARCH AND INNOVATION

VPTC

Perhaps the single major attempt at applied telecommunications research by the VPTC is Project HEAR. Conducted during fiscal year 1976, Project HEAR (for Higher Education Applications in Radio) was designed to enable state-supported institutions of higher education to develop a means of meeting cultural, instructional, and informational obligations through the use of radio broadcasting. Involved in the program were four public radio stations: WRFK - Richmond; WMRA - Harrisonburg; WVWR - Roanoke; and WTGM - Norfolk, now WHRO; and thirty of the thirty-nine state-supported institutions of higher education, making the project a statewide effort. (HEAR: 1976, p. 1)

The project had several positive ramifications.

1. Awareness was developed for potential of radio in higher education instruction.
2. Proof was established that instructional programming could be 'good radio.'
3. Diverse programming was developed, and
4. Greater general awareness of the radio medium was achieved. (HEAR, 1976: pp. 21-22)

Overall, the project received a positive evaluation. Since its completion in 1976, and the end of funding for this venture, there has been no follow-up based on the lessons learned and no new programs of similar magnitude have been developed.

Since the end of Project HEAR, VPTC has had no sustained program of research and innovations. Recent examples of studies undertaken

by VPTC can be characterized as needs studies or inventories of equipment or programs in State agencies, mostly concerned with television and film production or playback capacities. VPTC has not encouraged research and innovation by the community public television stations either.

The practical benefits of research innovation and demonstration of telecommunications technologies have not been made available to the Commonwealth resulting in a lack of use of this capacity and failure to keep up with changing technology both in the central state telecommunications agency (VPTC) but, more importantly, in the management cadre of program departments and central state administrative agencies.

Other Research and Innovation Experience in Virginia

Our inquiries identified one significant research and innovation effort within the Commonwealth, although outside of State government. The Center for Excellence, Inc., of Williamsburg, Virginia (CenTeX), is a private, non-profit corporation directed to the use of five of the six telecommunications technologies (the six include: ITFS, SCA, CATV, satellite, telephone-line teleconferencing, and broadcast) for educational, medical and social services research and resource development. CenTeX is, in effect, an operational research laboratory capable of testing the operational feasibility of specific telecommunications technologies of an educational nature. While their work to date has been largely in the area of teacher in-service training using ITFS, CATV and teleconferencing technologies and SCA side-band radio for delivery of a service to the print handicapped and deaf,

CenTeX is also active in other areas and in the delivery of specific educational services, not consistent with its research laboratory role which is the focus of interest of this paper.

The research techniques employed by this corporation can be a model for the kinds of activities needed to be undertaken in the Commonwealth.

CenTeX's objectives are described in two papers written by its founder in 1968 and titled "Center for Excellence" and "The Institute for Learning Sciences and Teaching Technologies."

1. To identify and define the major unfilled educational needs of the geographic areas which it seeks to serve;

2. To develop the educational curricula, expert capabilities, and resources to meet these unfilled needs;

3. To make intensive use of modern electronic technologies, such as telecommunications, to increase the effectiveness and the distribution scope of public services - with proper recognition, however, of the following factors:

    a. the public <u>need</u> and <u>priority</u> of the services delivered

    b. the <u>economic</u> justification and <u>viability</u> factors pertinent to the use of available and applicable technological tools and telecommunications delivery systems

    c. the continuing importance of America's history-making belief in the <u>principle of local control</u> of its public service processes

    d. the need for educational diversity in a democratic nation, with divergent ethnic and religious populations;

4. To establish in the Tidewater area of Virginia America's first educational/medical/social services telecommunications system "laboratory"

    a. to test the usefulness of all available educational telecommunications technologies and their applications to the fields of:

        (1) Education

        (2) Rehabilitation

(3) Medical Services

(4) Social Services

b. to determine the capital and operating requirements (personnel, facilities and other costs) of the tested systems

c. to provide a laboratory to test the learning technologies, curriculum programs (both those developed by CenTeX and those developed by others) and, if necessary and desirable, modify the tested teaching technologies for effective distribution by properly selected telecommunications systems;

5. To develop the type of educational consortium and management which can:

a. identify and define accurately Tidewater's educational, rehabilitation, medical, and social services needs

b. determine the most effective organizations and resources (expertise, materials and facilities) available within the Tidewater area to meet its grass-root needs in the fields listed by 5a preceding

c. test and evaluate the effectiveness of varying telecommunications methods in the delivery of the expertise and materials dictated by Tidewater's needs in the field of study

d. determine the cost effectiveness of the tested delivery systems.

Analysis of the effectiveness of CenTeX as a research laboratory, or of the cost effectiveness of its several projects, is not within the mandate of this study. The importance of CenTeX for our purposes is that it is an active, viable example of the kind of research and practical demonstration of the use of telecommunications technologies to solve specific State agency program requirements. While CenTeX research is not limited to only educational functions (and CenTeX has complicated its mission by adding a routine delivery of training role), it, nonetheless, points the way to a positive comprehensive (all technologies and all State

concerns) approach to telecommunications research and development.

NATIONAL PERSPECTIVES ON TELECOMMUNICATIONS RESEARCH

As one analyzes the national scene in telecommunications, additional support for (and direction of) telemedia research and development can be seen. The Carnegie Commission on Public Broadcasting has recently concluded its study and made recommendations for national-level actions to be taken by television and radio broadcasters in the near future. They, too, speak to the need for research to take place and to the future of public broadcasting and its relationship with other telecommunications technologies.

> "We recommend that public broadcasting develop a stronger, ongoing, and more fully integrated research and development capability to assist the system in taking advantage of new technology to meet public needs." (Carnegie: 1979, p. 243)

The Public Telecommunications Financing Act of 1978, too, is concerned with the promotion of experimentation in the telecommunications field as reflected in Title II, Subpart B:

> "Sec. 395.(a) It is the purpose of this subpart to promote the development of the nonbroadcast telecommunications facilities and services for the transmission, distribution, and delivery of health, education, and public or social service information. The Secretary is authorized, upon receipt of an application in such form and containing such information as he may by regulation require, to make grants to, and enter into contracts with, public and private nonprofit agencies, organizations, and institutions for the purpose of carrying out telecommunications demonstrations.
>
> (b) The Secretary may approve an application submitted and subsection(a) if he determines that -
>
> (1) the project for which application is made will demonstrate innovative method or techniques utilizing nonbroadcast telecommunications equipment or facilities to satisfy the purpose of this subpart;"

The Corporation for Public Broadcasting within the past year has undergone restructuring, as has the Public Broadcasting System. One of the results of the restructuring process was the identification of the need for research and experimentation to be taking place. Perhaps even more important is the fact that this need is being coupled with the importance of doing both long and short term planning. This move is sanctioned by the most recent report in the Carnegie Commission on Public Broadcasting and the Public Telecommunications Financing Act of 1978.

The concept, though, is not a new one. If we look to any of the major companies in the country, we will find there is a research and development department.

The planning process can be broken down into several major steps.

1. Evaluation
2. Identification of problem or need
3. Research what is and was
4. Given the need recommendations for meeting the need
5. Reevaluation of recommendation based on available resources and develop working plan
6. Implement plan
7. Evaluate
8. Make any adjustments necessary.

Experimentation goes through the entire process and in doing so provides the information needed in the first five portions of the actual development of a plan on a large scale. HEAR and CenTeX both went through the steps of an overall evaluation, a centering on specific needs to be dealt with, the development of a plan and

ascertainment of resources, the actual implementation and testing of the hypothesis with conclusions being drawn to be acted upon in the future.

The difference between the two is with HEAR, the conclusions were made, but then there was no action to turn these conclusions into a plan for the future and implement the plan; one of the results being there is today a deficit in the area of planning in the uses of public radio and its applications in higher education. Whereas, with the CenTeX programm SETT-UP, the initial trial period of three years has been completed, an evaluation made, and backing secured for the continuation of the services based on the initial success of the program.

Conclusions

1. There is an overall lack of State supported research taking place to examine the potential applicability of new telecommunications technologies to the needs (applications) of the citizens of Virginia.

2. Within Virginia, there is no centralized agency equipped with the resources necessary for the coordination of an active research and innovation program.

3. All encompassing research projects and programs using telecommunications technologies to provide a framework for future planning in telecommunications are lacking.

4. There is a national trend emanating from the federal government to encourage experimentation and development in the different telecommunications technologies.

5. No organized state effort is taking place to tap into available federal funding to aid Virginia in its telecommunications development.

6. There are two levels of research and development which are not being utilized to their potential:

    a. On an individual professional level concerning the realities within which plans are being made, and

    b. At the group level where the primary function is to handle research and innovation issues related to overall planning.

REFERENCES

The Report of the Carnegie Commission on the Future of Public Broadcasting, A Public Trust, New York: Bantam Book, 1979

U.S. Congress, P.L. 95-567, Public Telecommunications Financing Act of 1978. 95th Congress 2nd Session.

Virginia Public Telecommunications Council. HEAR: Higher Education Applications of Radio, 1976.

Virginia Public Telecommunications Council. Master State Plan for Public Telecommunications, Part I, 1973.